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THE 1920 FINANCIAL NEEDS OF THE ASSOCIATION.

The Secretary's annual report of the status of the membership of the Association indicated a paid-up membership of 561 with 95 unpaid memberships. The receipts for 1919 were a little over $770, while disbursements, including liabilities from the previous year, amounted to about $880. The budget for 1920 as presented calls for receipts of $1000 to finance the publication of four issues of the JOURNAL and to maintain the affairs of the Association.

An important change in the Constitution was voted at the recent annual meeting, doing away with the associate membership and making a flat membership rate of $2.00 per year for all. This fee includes a subscription to the JOURNAL OF FARM ECONOMICS, which is to be published quarterly in 1920.

It is at once apparent in the consideration of the budget for 1920 that receipts from at least five hundred members will be necessary. However, when it is recalled that the Association is practically $100 in debt at the beginning of the year 1920, additional receipts from fifty more members will be necessary in order to have a small cash balance at the end of the current year.

Allowing for the regular number of delinquent members in 1920 means that the affairs of the Association are likely to be on a very close margin unless a considerable number of new members are acquired during the year. With the publication of a quarterly JOURNAL and with the interest in economic discussion that should be manifested at this time, the addition of two hundred new names should not be a difficult task.

The Executive Committee of the Association has believed that the best contact for membership is to have a member in each State Agricultural College or Experiment Station feel that he is responsible for

the securing of memberships in that state. The Secretary during the past year has asked a member in each state institution to act as membership agent in arousing interest and in securing new members for subscription to the JOURNAL. This does not mean that any one interested in the work of the Association should not feel it a duty to secure members wherever possible. It is by the coöperative work of all that the largest results are secured. The bills for the 1920 dues have been sent each member with the request that he use his best efforts to secure at least one additional member.

The success of the JOURNAL depends upon the response from the members. The opportunity for becoming a powerful force in stimulating and contributing thought on farm economic questions is before us. May each one be alive to the situation and contribute his share towards the success of the Association and its publication.

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EDITORIAL NOTES.

The tenth annual meeting of the American Farm Economic Association was held at the Auditorium Hotel, Chicago, Illinois, on November 11, 12, 13, 1919. Three sessions occurred on Tuesday, two on Wednesday and two on Thursday. The members in attendance had an opportunity to hear the annual address given Wednesday evening by the president of the American Association of Agricultural Colleges and Experiment Stations. President Lory of the Colorado Agricultural College presented this address. It was not possible to attend all of the sectional meetings that were scheduled during the week beginning November 10th. However, there was time to take in parts of the various programs offered. Getting in touch with old friends and making the acquaintance of new men made the occasion one of inspiration and profit. There was a very satisfactory attendance at the annual sessions of the American Farm Economic Association throughout the three-day period.

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We believe that it is highly desirable to invade the Corn Belt occasionally with the annual meeting and thereby bring the objects and purposes of the Farm Economic Association to the attention of men who may not have the inclination to travel to one or more of our eastern cities. The recent experiment was entirely successful and it should be an inducement to go west in the near future.

A few excellent reports of the subject matter presented at the tenth annual meeting have appeared in the agricultural press. It will scarcely be necessary to review in this issue of the JOURNAL the im-

portant papers which were read before the association membership at Chicago. Practically all of these manuscripts will be reproduced in early issues of the JOURNAL. At the recent meeting the subject matter was grouped under six or more distinct headings. These were (1) Farm Management Extension Work, (2) Country Life Problems, (3) Land Problems, (4) Price Problems, (5) Farm Organization and Farm Business Analysis, (6) Farm Labor. A few papers from this list have been selected for the first quarterly issue in 1920. Others will be used in the April issue.

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We regret that some copies of the third number of Volume I of the JOURNAL failed to reach members promptly and as a result a definite announcement of the time and place of the annual meeting was not made available to these men. It may be explained that no special notice of the annual meeting was sent to the membership of the association. Funds in the treasury were comparatively low in October, and it was the opinion of the executive committee that it would be more economical to report these dates in the pages of the October number than to send out approximately 600 cards or letters. A preliminary suggestion concerning the time of the annual meeting appeared in the second number of the JOURNAL during the month of August. This was followed by a more detailed outline in October.

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It may be well to point out that no method has been devised whereby the mailing list of the association may be corrected automatically. Membership changes should be reported promptly. Even when we are advised concerning a change of address mistakes are sometimes made. It is our purpose, however, to reduce these errors to a minimum. A new address in many instances implies new duties. In sending a notice to this office concerning a change you may perform a double service. In the first place, your aim is to correct the mailing list in so far as your name is concerned, but you may also furnish the editor with a news item regarding the character of your work.

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Short reports of progress in connection with Farm Economic investigations can be used to advantage in the various issues of the JOURNAL. During the present year the JOURNAL will appear as a quarterly and will be published in January, April, July and October. Kindly bear these dates in mind in preparing and sending new notes, short articles or other material to the editor.

PRESIDENT'S ADDRESS, AMERICAN FARM ECONOMIC ASSOCIATION, CHICAGO, ILLINOIS, NOVEMBER 11, 1919.[1]

J. R. FAIN,

ATHENS, GEORGIA.

When we survey world conditions, changes and readjustments are the order of the day. Agriculture, as well as other lines of endeavor, will be subject to many changes. It is not my purpose to offer solutions for such problems as these changes bring but rather to present them for consideration.

The readjustments that will have to be made in this country on account of the war are not very great compared with the countries where reconstruction rather than readjustment is necessary.

The readjustment brought about by increased land values and labor conditions will probably be most pronounced, while the uncertainty of future markets with the probable downward trend of prices sooner or later will tend to check the progress that would otherwise be made. A readjustment from the high prices to the lower levels that must of necessity prevail in the future will be difficult to meet.

Theodore Price in the August *World's Work* makes the following statements:

> Inflation may in fact be regarded as a financial anæsthesia by which men are made for a time insensible of the organic distress that the waste of war might otherwise involve. But as in the case of the anæsthesia, emergence from the anæsthesia that inflation induces is almost certain to be followed by weakness, prostration and nausea.
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> The resemblance between the anæsthesia of inflation and that produced by chloroform, ether, or laughing gas, is indeed remarkable.

Those of us who have had the misfortune to have been compelled to submit to an anæsthesia will probably never forget the after effects. If Mr. Price's comparison is correct, we have some difficult and not very pleasant times ahead.

One of the big problems then ahead of us is to get back to normal with the least amount of waste and lost motion. This is indeed diffi-

[1] This address was given at the tenth annual meeting of the American Farm Economic Association.

cult and will require the coöperation of all concerned, and an especial duty will fall on the men who are working along the lines of farm management and farm economics.

It is hard to foresee what levels land values in this country will reach in the immediate future. That the general level of land prices will eventually go higher is hardly to be gainsaid. A comparatively few years ago I was told that the people in a certain section in southern Illinois were having grave discussions as to whether they could ever pay interest on land values that ranged from $25.00 to $35.00 per acre. To-day they are discussing whether they can continue to pay interest on ten times or more those amounts. Will the same length of time in the future find them discussing whether they can pay interest on a like increase? Whatever comes the increase in land prices by speculation should be discouraged. If American agriculture is to develop normally and to the full extent there must be some other basis for land values besides the interest that can be paid during a period of high prices by mining and selling the fertility of the soil.

One of the disturbing things that seems to be ahead of us in American agriculture is whether it will be possible for a man to buy a farm and pay for it from the profits of the business. In certain sections of the country some people have stated that this point has already been reached. If it has not, apparently we are reaching that period with a good deal of speed.

How then is the man who wants to farm to become a land owner in the future? Will the money have to be accumulated in other lines of business or will the government of some other agency have to come to his aid? Or will the present owners sell out at the present high prices and money that has been made in other lines be invested in the lands largely for the sake of land ownership rather than with the idea of making any reasonable returns on the investment? If so, what will be the effect on the farming population?

Then, too, we have the effect of increased price of the land on the size of the farm. Will it make for larger or smaller farms? If capital accumulated in other lines of business is put into farm lands, the farms are likely to be large. If conditions are such that the business will continue to pay for the land, the farms are apt to be small.

Land in the past has been one of the most plentiful and consequently cheapest assets we had, and as usual we have wasted that which has been plentiful and cheap, but if American agriculture is to show continued prosperity, care will have to be given to farming as a business with some continuity and not as a year-to-year proposition.

One of the difficulties that will be encountered in the immediate future will come from the maintaining of the fertility of the farm. During the past few years under the pressure of patriotism and high prices or possibly in some instances of high prices and patriotism a good deal of the fertility of the farm has been marketed.

On a farm in my own state that we have been keeping a record of for several years a good system had been practiced in maintaining the fertility and consequently the yields. The system has been changed gradually by increasing the cash crop and reducing the soil-building crop to the detriment of the labor income despite high prices.

Whether or not cashing the farm during periods of high prices with the idea of rebuilding later is a good system, it is evidently being practiced. Data for longer periods are desirable to show the results of a system where the fertility is maintained against one when everything possible is cashed during periods of high prices.

The question of what labor system, the wage, share cropper or tenant, can be maintained in the future is one occupying the thought of many farm owners. Unquestionably, more equipment will be one of the factors of the future. During the period of war the percentage of wage labor has undoubtedly been reduced and that of share cropper or tenant has been increased. In fact, it has been my observation that the farm laborer has reaped a great deal of the reward of the high prices rather than the land owner. If the wage labor is to be the system, is the California method of helping the laborer to secure his own home the proper one to follow to develop a contented body of farm laborers and the best possible citizenship in this class of workers?

The tenant system in this country has had a marked effect on exhausting the producing power of the land. If this system is to supply the labor of the future, on what basis is it to be operated to protect the land? Is the compensating basis of some of the foreign countries the basis to adopt for this country? If so, we will have to ask for a great deal of information regarding our soils. In my own state we have found up to this time, and we are not through yet, about one hundred soil types. To establish a compensating basis for as varied a condition as this would certainly call for a more extended knowledge of residual effect than we have at the present time.

Then, too, if tenancy prevails, we will have the question of absentee landlordism to contend with. Not only will we have the effect on the material prosperity of the country but also the effect on the citizenship.

Whatever the system of labor employed, there is a decided need for greater efficiency than is evident at the present. The world now

needs farm products. It needs all that land and labor can give. How to change the present unrest into productive work is not only a national problem but a world wide one. Can we do this before the unrest assumes the proportions it has obtained in other lands?

Closely connected with the labor problems is that of the equipment of the farm. What will be the effect of the development in mechanical construction on farm equipment, how much of the progress that has been made during the war period, such as the development of the internal combustion engines, can be applied to farm conditions, how much of the new methods in mechanical construction will be turned into channels that will have influence on farm development?

One thing should be stressed by all those who have to do with the cost of operating a farm, and that is the construction of farm implements should be such in workmanship and material that the most economical service possible can be secured.

There has been a considerable increase in the wealth of this country in the past few years. To what extent can this be utilized to increase the working capital of the farmer? If it can be made available to the farmer on reasonable conditions, is it a good time to increase the working capital when the purchasing power of a dollar is so small?

What will be the influence of the competition that we have to meet on the cropping systems of the past? There will be changes to meet the changed land values and labor conditions as well as to meet the competition and demands from other countries. A great many changes in crops and cropping systems have taken place in various parts of the country. Which of these can be made permanent? Some of them will go with lower values, others will stay. Cost, profit and possibilities of these new crops and systems should be studied closely so as to limit the period of uncertainty of their use as much as possible.

With the present high cost of production and the prospect at least in the not distant future of a declining market, the outlook is not very encouraging. This is the time for economy in production that every expenditure and effort may be made to count.

What have we learned of conservation from our past experience? Will there be as much waste in our agricultural production in the future as there was said to have been in the past? That there is some lost motion and non-productive expenditure of energy on the farm no one will deny. The elimination of waste is always a proper study in any business, and much study can be given to it in the business of farming. Will not this time of readjustment be an opportune time to press these studies?

Following other periods of readjustments in this country farm products have gone below reasonable cost of production for some years. This is not good, either for the individual, the state or the nation. Can a like condition at this time be restricted to a short period or avoided altogether?

Because of the length of time it requires to make changes on the farm, the farmer will need all the assistance he can get to be able to keep his affairs in shape during the period of readjustment. By assistance I mean the farmer should be put in possession of the knowledge he may need to solve such problems as he may have to meet. I have a great deal of respect for the judgment of the men who till the land, and believe they can best solve their own problems.

The prices for products other than the farm have been stabilized, and the manufacturer knows substantially what he will obtain for his product. Will we not have to come to something of this kind for farm products, or at least should not the farmer know within a certain range what he can expect for his products? This is a large question when we consider the seasonal variation as well as the acreage variation that takes place from time to time. Will a good system of warehousing and selling over a long period help to solve this problem, and can it be worked out on a scale that will be adequate for the needs in this country, or will lowering the cost of marketing in other ways be the solution? This latter may mean many changes and will involve readjusting many phases of business other than farming.

The solving of the present problems is a matter of coöperation, each one in his place doing his part that the work as a whole may be fruitful. To make the coöperation effective, it will be necessary for each one concerned to try to see the viewpoint of the man in other lines than his own and assume a sympathetic and charitable attitude for the opinion and work of others.

This country was called on and responded wonderfully to meet the emergencies of the immediate past. The patriotism of the people of this country who are interested in agriculture was shown by their response. We are now called on to meet even graver problems without the stimulus of war. A higher order of patriotism is needed to meet the problems of to-day than that which was needed for the problems of yesterday. The problem of to-day calls for construction work. It is in construction work that America excels. We can confidently expect that those who will be responsible for the solution of these problems will "carry on" and the agricultural interest of their country will be on a better and firmer foundation for the past and present experiences.

THE FIELD IN FARM MANAGEMENT DEMONSTRATIONS.[1]

H. C. M. CASE,

FARM MANAGEMENT EXTENSION, WASHINGTON, D. C.

The aim of the farm management extension program to-day is not unlike the object of the work when it had its inception in 1912. The method of working has changed, however, and must continue to change if it is to meet the demands placed upon it. When farm management work is fully organized in a state, the relationship of the farm management demonstrator to his subject matter department should be similar to the relationship existing between the teacher, investigator and extension specialist in other agricultural subject matter departments. This means that the purpose of the farm management extension specialist and those who work with him must eventually be that of carrying farm management facts from the investigational department to the farmer in such form that they can be applied to the organization of the farm business.

HISTORICAL.

The Farm Survey.—The importance of farm management demonstration work in relation to all agricultural extension work is shown in its origin. Farm management demonstration work had its beginning in farm surveys, conducted in 1912 and 1913, in the states of New York, Connecticut and Ohio. At that time the activities were essentially of an investigational character. The purpose of the first surveys was to determine the status of agriculture in the respective areas. In the first counties where a farm survey was conducted the analysis gave the information used in drawing up the program of work for the county agents. The work at that time was mainly with the individual farmer, both in securing and returning the survey records.

In general, as the work was taken up in other states, the county agents depended very largely upon the assistance of the demonstrator. In rare instances the county agent secured as many survey records as the demonstrator. This meant that the number of farmers reached

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 11, 1919.

in a year's time in a county or in a state was small. Estimates at that time of the number of records that could be taken, tabulated, and returned to farmers, was at the rate of one per day per man. On this basis and according to actual records, it is hardly possible for a demonstrator to account for more than 600 records completed in a state in one year under this method of work. However, it was not undesirable that the work should have had its beginning in this way. The personal experience of the early farm management extension specialists will vouch for the fact that they were not altogether certain in their own minds concerning just what constituted good farm organization and management in all of the regions where they were called upon to work. Securing a limited number of records made it possible to study the individuality of the farms and to know personally most of the coöperators. This gave the extension workers, both demonstrators and county agents, an opportunity to study the organization and management of the farms in their relation to the existing conditions on farms potentially alike in external appearances but radically different in physical makeup and limitations. This makes it impossible to establish as uniform a system of management for farms as for factories. The early farm management demonstration work served as a training school for the demonstrators, since there was no precedent in practically any state where the work was introduced.

Perhaps some people have confused the task of the demonstrator with that of the farm management investigator because the farm is necessarily the laboratory of the investigator as well as the problem of the extension specialist. This condition has led to criticism of the demonstrator because his efforts in the past often seemed to tend toward investigation. The demonstrator or extension specialist preceded the farm management investigator in many states. What could be demonstrated before it had become an established fact? The demonstrator who studied local conditions to determine whether good demonstration material from other states was safe material to use in extension work in all parts of his state was exhibiting good judgment. Fortunate, however, was the demonstrator who had a subject matter department upon which he could rely for helpful material and to which he could go for guidance in his extension teaching.

Need of More Accurate Accounting.—Another good reason for the work to be started as a farm survey was that no propaganda had been conducted to interest farmers in accounting, and it was considered necessary to conduct a survey to interest farmers in order to point

out the value of farm accounting before actual records would be kept. The survey did accentuate the differences that occurred in the farm earnings, and, while the farmer often accredited much of the variation in earnings between farms to the fact that his analysis was based upon estimates rather than upon actual records, the early surveys were successful in raising the question in the farmer's mind of whether or not his farm operations were as successful as they should be, or as successful as those of his neighbors. There is no doubt but what the farm survey results induced many to keep accounts where formerly they had been quite satisfied with the results of their farm operations. Be it said to the credit of many farmers that we extension workers mistook their failure to keep accounts as a lack of appreciation on the part of the farmers for the business aspect of farming, rather than as an absence of a satisfactory system of accounting and farm business analysis which they understood how to use. More recent experiences indicate that the latter more nearly represented the actual situation many times.

Introduction of Farm Account Books.—When finally the farm account books were prepared in many states in recognition of these conditions, and careful instruction and guidance were given in keeping and using the account, extension work in farm management made a steady growth. This work is now spreading through communities and counties on its own merit, when proper instruction and guidance are provided. Whether or not the actual records some farmers keep are more accurate than survey records may be questioned, but actual records far better serve the purpose of the extension work. The general public interest in information which will assist in reporting the income tax, and in other business aspects of farming, would make it seem that this is the opportune time to capitalize on the general interest in farm accounting by wide and thorough instruction in the method of keeping and using the financial record of the farm business in order to secure better farm organization.

Possibly some of the interest manifested in farm management is the interest that greets any new subject. However, because of the unique position farm management holds in coördinating all the farm enterprises into a well balanced business unit, it should be easy to maintain the attention of farmers in the subject, but, to do so the extension specialist must build a program which anticipates the aim and future needs of the work.

Coöperative Agencies.

Before attempting to analyze the work of the past it will be well to consider for a moment the various agencies with which the farm management demonstrator may coöperate and also to consider the assistance that the people representing these agencies can be expected to give, judging from their past training and experience.

The County Agent.—Without question a part of the demonstrator's task is to help build up an agricultural extension organization which is effective in reaching farmers. Hence, it would seem that his entire effort in a county should center on the county agent and his work. It can be stated emphatically that the county agent is the best co-operator the demonstrator has to rely upon in the individual counties. But putting this fact aside for a moment, it is worth while to consider just what the county agent's training has been and how well he is fitted for the farm management extension work. Most states consider that the county agent should be an agricultural college graduate and with that requirement additional qualifications are demanded in some states as to the length of time he has been out of college and the amount of farm experience he has had. A large number of the county agents have been in the service for several years. This means that many of them who now have their work most firmly established, graduated from college when little or no instruction was given in farm management. Even the more recent agricultural college graduates who are now serving as county agents have had limited opportunity to study farm management or agricultural economics. Yet many county agents agree that these subjects are fundamental in their work.

The County Agent's Training.—It is essential that the county agent who assists the farmer with his individual problems does see the proper relationship between the various farm operations and enterprises. It is true that many of the agents have been good practical farmers, but that does not mean that they are necessarily adept at analyzing their own farm experience in a way which will enable others to accomplish a like success. Even though he is successful in advising farmers with regard to their farm management problems, new methods and new farm management information which will assist him in this work are being developed constantly, and about which he needs instruction. Even when the necessary training has been received, it is going to be an easy matter for the county agent serving a large farmer constituency, when called on for assistance in closing the farm account only to determine the taxable income and not to make use of the account in helping the farmer to study his business. Hence, it is

important that the county agent be given a good conception of the value of the farm record in teaching farm management, as well as a broad perspective of the farm management field. Training the county agents to help carry out the farm management program brings one face to face with the difficulties experienced because of the changes in the personnel of the county agent forces. An average replacement of perhaps 30 to 40 percent of the county agents in a year complicates the work of the extension specialist, especially in those states having the largest annual turnover of county agents.

The Agricultural High School Teachers.—The agricultural high school teachers are another source of assistance in promoting farm management extension work. If these men are agricultural college graduates they are often young men with little farm experience, at least following graduation. While they are conducting work primarily with boys of high-school age, they do have an opportunity of working through these boys in reaching their fathers. The extent to which these men can advise practical farmers, who in the main are following a profitable type of farming for their community, though perhaps it is not efficiently organized, is questioned. They are, however, in a very effective position to help boys who will soon need the training which it is desired to give the farmers of the present day. The agricultural teachers are often efficiently trained in the technique of accounting and should be able to accomplish good results either in teaching the farm boy accounting or in assisting him to keep accounts on his home farm. The teacher's success in teaching farm accounting and farm management to boys of high-school age will depend upon his own tact in dealing with farmers' personal business records. Also, it might be added, his ability to supplement the technical training which he gives his students with the practical instruction which can be secured by coöperating with successful farmers of the community who will demonstrate or point out good farm practice to the agricultural class on field trips to their farms. It would seem that this practice would help win the support of the farmer to the projects and work of the school. As far as coöperation between the demonstrator and agricultural high school teachers is concerned, it would seem preferable that the teachers secure assistance either from or through the county agent so that the farm management demonstrator's activities in the county will be centered in the county farm bureau or the main agricultural extension organization of the county, and also that other people be led to look to the county agent for assistance.

Bankers as Coöperators.—Bankers may be mentioned as an addi-

tional source of assistance. They have proved their desire to help meet the agricultural accounting need. This is shown by the distribution of account books and even in the expression of a desire on the part of bankers to assist farmers in keeping records. However, the banker has his own task to perform and the time has not yet arrived when evidence can be produced to show where this class of men has thoroughly instructed any large number of farmers in keeping financial records. The best reason which can be assigned for the cooperation and wide distribution of account books by agricultural colleges and banks is that a wide even distribution of uniform account books is secured over the entire state. Also, the standing and organization behind the two institutions practically eliminate the circulation of many nondescript account books put out for profit or advertising purposes. Then too, the distribution of a uniform type of book throughout an area meets with the approval of the Internal Revenue office and others who assist farmers with their accounts and in returning income tax schedules.

Method of Working.

It is only logical to expect that the same methods of teaching will not be equally successful in all sections of the country, because of the widely varying natural conditions. The methods used by the farm management demonstrators in promoting their work in the past might be analyzed in the light of existing and changing conditions which effect the future of the work. In the past the demonstrators and their coöperators have worked with individual farmers, small community groups and large extension school groups.

Work with Individual Farmers.—By working with the individual farmer, the purpose of the project may be accomplished with the individual, but it fails to reach the number of individuals required for a successful county, state or national project. The farm management demonstrator or the county agent may spend half a day assisting a single farmer to take a careful inventory or to close an account book at the end of a year, but if one man devoted an entire year on the work he could assist only 600 men at this rate. However, this work is limited to a portion of the year and the county agent has several other projects to conduct. Also, intensive work with the individual may make him depend on help rather than actually teach him to do the work for himself. Consequently, from the standpoint of the county agent with upwards of 2,500 farmers in his county, or the farm management demonstrator with 40 or more counties in a state, the

work with the individual farmer should be limited. However, it has been a question to what extent thorough farm accounting and farm business analysis can be taught to groups of farmers.

Work with Community Groups of Farmers.—The work with the small community groups has often taken the form of assisting men in attendance to start their accounts at the beginning of the year by taking the farm inventory, and to assist the same men at the end of the year in closing their records in a group, each man working on his own record and receiving such advice and assistance from the county agent and demonstrator as he may require. Because each man is working on a separate record, it is hard for those in charge to answer intelligently all the questions which apply to an individual farm, and at the same time keep in mind the actual condition existing on the separate farms which necessarily effect their organization and management. Accordingly, if this method is followed, the number of men who can be handled successfully at one time is limited. Also, because of the differences in the ability and rapidity of the farmers in working out their records, they do not keep together and it is necessary to answer the same questions several times even when a small number of men are handled at a single meeting. Furthermore, in many communities this method is questioned because of the privacy with which the farmer wishes to have his personal business handled. Where a group of men who have the right attitude toward the work can be brought together, there is found a good opportunity of training men who in turn will assist their neighbors in working out their records. Where there is not a strong incentive for farmers to keep records, such coöperators are a potent means of popularizing the work in the community. Subsequently it will grow on its own merit. Neither of the two methods of working discussed above solve the problem of how to reach any large number of farmers without the aid of a long-time program which involves the problem of training many men to serve as community leaders. The experience gained in carrying out the county agent program will show that building up a strong community organization with good local leaders who will instruct their neighbors is a long-time process.

Work with Farm Management Extension Schools.—The extension schools promise good results, but much depends upon the way in which the work is presented, that is, in determining to what extent it will accomplish the purpose of the project. It has been the experience of those engaged in the work that farm management can be presented to a large group of farmers in a way which will stimulate their inter-

est in accounting to the extent that a large number of account books will be requested by farmers. Often this is distribution of account books instead of instruction in record keeping. The stimulus behind the work is not sufficient to carry the farmer through the year, and even though he is assisted in starting his record while attending the meeting, frequent follow-up work is necessary to bring him through the year with a well kept record. The failure to present a completed record at the end of the year may be due to a lack of proper incentive, a failure to have received instructions in such a manner as to fix the necessary directions in his mind, a failure to understand the account book, or due to one or more of a number of other factors. This indicates that careful instruction in record keeping and farm business analysis should be given in extension school work.

Program for Instructing Farmers in Record Keeping.—One kind of an extension school which was tried in 1918 and later extended to other states consisted of a day's intensive instruction in farm accounting. The first step employed in developing the program of work for this type of an extension school was to bring the county agents together in groups of ten or more and instruct them in the same exercises that it was proposed to use with groups of farmers. This enabled the county agents to advertise the schools intelligently and to arouse the interest of farmers in the meetings to be held later. Also, it served as a training school for the county agents, enabling them to assist in the local meetings and later to hold similar meetings without aid from outside of their counties. At the county agent group meetings the program was presented in a way that emphasized the importance of farm management in its relationship to county agent activities.

The following plan was used in conducting the one-day extension schools with farmers. Each farmer in attendance was directed in entering the same typical complete financial record in an account book. He was also given instruction in analyzing this record and in determining the taxable income. This was done to demonstrate how the record should be kept for farm management or income tax purposes. The various items were taken up in logical order. The inventory at the beginning of the year was inserted first, followed by the entry of receipts and expenses for the year's business, and, finally, the inventory for the end of the year was entered. Also, the opportunity was taken to demonstrate what items should not appear in the record. This was done by entering in the record a number of items which should not occur in the completed account. Before summarizing the

account, all items were carefully checked over and those foreign to the account were struck out and the explanation given for eliminating them. This procedure, together with the actual practice on the part of each one in attendance in working out the record, gave a thorough understanding of how to keep and summarize the account. The analysis of the business and the determination of the taxable income through the use of the account demonstrated the value of farm accounting.

The interest shown in the analysis and study of the farm account indicated that those in attendance at the school had been thinking of the business side of farming and wanted information of this kind. The large difference in the farm incomes on farms of like natural possibilities is recognized by many farmers, hence, the use of simple factors which can be applied to measure the efficiency with which a farm is being operated is something many farmers are beginning to feel they should have as they study their own farms in a business way.

Problems in Farm Organization and Management.—The analysis of the farm account opened the way for taking up problems in farm organization and management. Following the analysis of the farm account which the men individually worked out in the account books during the school, certain factors more commonly affecting the success of farming in that particular region were illustrated on a blackboard. For example, in Illinois where these extension schools were conducted, the degree of efficiency in the use of man and horse labor is one of the large factors contributing to the success or failure of the farm business. In illustrating this point, the attention of the farmers present was directed to the fact that in their own community some were accomplishing considerably more work with the same amount of available labor than other men farming on land of the same type. Also, the men who made best use of their labor often secured as large or better crop yields than others. Oftentimes, in checking this statement with men at the meeting, it was shown that some individuals were successfully handling twice as much land per man and per horse as others farming under like natural conditions. This led up to presenting a diagram on the blackboard showing the monthly horse labor requirements for an equal acreage of different crops as determined by the cost accounting studies which had been conducted by the department of farm management of the Agricultural College.

This diagram illustrated the importance of having a good rotation of crops in order to distribute horse labor throughout the year, thus

avoiding a peak load of labor at one season whereas at another season little productive labor would be required.

The importance of the cost of labor was further illustrated by figuring the cost of producing some crop, such as corn, where corn was the most important crop grown. The men were greatly interested in illustrations of how man labor and horse labor costs per hour may be reduced by organizing the farm business in such a way as to enable more hours of productive labor to be accomplished by one man or with one horse during the year's time.

The investigational material supplied by the subject matter department of the Agricultural College was used to show that the hours of horse labor performed during a year's time varied from 650 to 1450 hours per horse on farms in the same community. This condition, more than any other factor, made the costs per hour of horse labor twice as large on some farms as on other farms. While these men had been told previously of the importance of adopting a good rotation of crops in order to increase crop yields and to maintain soil fertility, the effect of a good rotation in reducing the operating costs of the farm was a new point in favor of a good rotation of crops to many farmers. At any rate, they had not had the result worked out for them even approximately from reliable data typical of the conditions in their own locality. This is one instance of how the facts secured in farm management investigational work were used in extension work. Also, it illustrates a need which is developing in extension work—that of supplementing the financial record which the farmer keeps of his own business with reliable subject matter data secured from detailed records which the average farmer does not have time to keep, and for which the extension worker must look to the investigator. Usually a few facts well illustrated and driven home with force will give the farmer a better basis for thinking his problems through than when much data are presented. If an extension specialist can get a man to think clearly for himself, he has accomplished his purpose in large measure.

Just how far and under what local conditions such extension schools can be successfully conducted is not yet determined, but it does seem that one phase of the difficulty in getting farmers to keep records of their farm business will be solved when an efficient means is found to instruct the individual farmer to keep and analyze his record rather than to put the main effort on stimulating his desire to keep records.

It is believed that the above described type of extension school, where thorough instruction is given in farm accounting, farm busi-

ness analysis and the application of farm management data, is in keeping with good methods of extension teaching. Agricultural extension teaching usually involves the demonstration method of teaching by which the farmer is shown the result of a certain project conducted in a certain way, such as a demonstration in growing some crop according to a prescribed plan. It is considered still better extension teaching to get a man to try out a demonstration in a small way for himself. It would seem that the plan of having the men who are attending the extension school, work out and analyze an account and determine the more important measures of efficiency, is analogous to having a man carry out his own demonstration, since he does the work for himself which shows him the results secured from the application of the project. In addition, the presentation of subject matter as it applies to the farm shows him how to proceed to strengthen the organization of his own farm.

Object of the Demonstration Work.

Mainly the discussion thus far has had to do with farm accounting. Farm accounting in itself is not the object of the work. As in the beginning, the object of the work is that of teaching the farmer to analyze his farm business intelligently. The account is only a means to the end. It facilitates the application of farm management information to the individual farm. Therefore, farm accounting is emphasized merely as a means of introducing farm economic principles into the management of the farm as a unit. The object of the work then in itself calls for definite information put in such terms that it will be accepted by farmers in the organization and management of their business. A good system of accounts is required where systematic management is applied to other businesses. Why should the same not be true of the farm? The emphasis has been placed on farm accounting and methods of teaching it because farm accounting is the logical basis for determining and promoting the better administration of the farm business, whether it may be a more equitable landlord and tenant agreement or a more efficient organization and management of the individual farm.

Suggestions for the Advancement of the Work.

From the experience which has been gained in the farm management demonstrations to date and through considering the object of the work, it is believed that the following are some of the suggestions that should be made for the advancement of the work:

1. The success of the work is dependent to a great extent on the ability of the demonstrator. He should be a salesman and a teacher, that is, one who can sell his ideas or material to others and then teach them to use this same material in extending it to farmers. To be proficient then practically presupposes that the demonstrator shall have had good practical farm experience and a good general training in all agricultural subjects in order to appreciate the problems involved. In addition he should have special training in farm management and agricultural economics.

2. To make the work of one or two farm management specialists effective in a state, it must be considered that the largest task before them is to train county agents to carry out the farm management extension program. Due to the frequent changes in the personnel of the county agents and the variation in the training of the men employed in different states, it will be necessary that the assistance given to the county agents shall vary according to local conditions. In arranging the plan of work or material to be used in extension teaching, care should be observed that the material is presented in a way in which it can readily be transmitted to others and in a way in which it will appeal to the farmers. While the farmer's interest in general accounting may be aroused through information on the income tax law, cost accounting in milk production, and similar questions of wide interest, these questions should not be allowed to divert his attention to some phase of the work as an end in itself, but it should be used simply as a means of accomplishing the purpose of the project.

3. The account book for recording the financial farm record when properly kept by the farmer is the best basis for teaching farm organization and management in a way that the farmer can most easily apply it to his own farm business. Keeping in mind the object of the work, the account book should give a more significant answer than taxable income, net farm income, labor income, or interest earned on investment. It must give a few outstanding measures of the farm's efficiency and in a way in which the farmer can understand their application.

4. A determination of the efficiency measures of the farm business must be based upon and supported by sound investigational data. The demand for such data is at hand—that is, many farmers are already asking for such material before it is available in the subject-matter departments at the colleges. The sudden demand for such information was not anticipated because it was not appreciated to what extent the farmer would desire to have the information gained from

the local records, supplemented and strengthened by more reliable data. Yet this is a logical development of the work. The spoken word of the extension man is usually a more potent means of disseminating to farmers the information compiled by the investigator than the printed bulletin, if the application of the information to the farm is well demonstrated and explained. Hence, immediate attention should be given to developing an extension organization which will bring to the farmer effectively the facts secured by both the state and federal farm management investigational organizations.

5. The place that subject-matter has in farm management extension teaching puts the demand on the demonstrator to understand thoroughly how investigational data were secured. Also it is believed that it requires that the investigator thoroughly understands the field need of such material. It would seem logical then that both the extension specialist and the investigator should spend some time in cooperation in each other's field. Would not such an interchange be mutually beneficial?

6. While the work aims primarily at the better organization of the individual farm, a new phase of work presents itself in the tenancy question. Due to the rapid advance in the price of land and the unsatisfactory conditions now existing in tenancy, there is a demand for reliable guidance in securing more equitable contracts between landlord and tenant. Whether the change in price of land and other items entering into the cost of production should change the division of farm income is a question which must be met with careful analysis.

7. The interest manifested in feed records, enterprise records and special records of many kinds can be used to advantage in stimulating the farmer's interest in general accounting. In the main, however, it seems best that such records should be used supplemental to the financial record of the entire farm business, in order that the financial record may be used in the interpretation of the enterprise records.

8. As the work becomes established in various counties, additional means of teaching farm organization and management can be found through well prepared fair exhibits and carefully planned farm management tours to farms where records have been kept for a long enough period to have studied out the organization of the farm business.

9. Extension experience indicates that there is a need of educating the extension forces to a better appreciation of the way in which their line of work connects up with the organization of the entire farm business. In just how far this should concern the demonstrator may

be questioned, but it is logical to suppose that he has the best means of pointing out the interrelation of farm operations and enterprises.

In conclusion, should it not be said that, due to the interrelation of farm enterprises, changes in the organization and management of the farm business must generally be made upon the careful study of the economic factors affecting the individual farm business? The experience of farmers who have instituted a definite system of farm management as a result of analyzing their business indicates that time is required to effect all of the desired changes in the organization of a farm. Also, improvement in farm practice throughout a community is usually effected by the majority of farmers following the leadership of the more progressive men. Therefore, the program of work in farm management demonstrations must be perfected continually to determine the best farm practice and the best means of applying this information to a large number of farms. Hence a farm management extension program may be accomplishing its purpose effectively without gaining wide public attention, because of the cumulative results that follow the adoption of the best practices on a few farms.

COÖPERATION WITH FARM BUREAUS IN FARM MANAGEMENT DEMONSTRATIONS.[1]

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Broadly speaking, the ultimate goal of farm management demonstrations in Iowa is to teach the farmer such farm management principles as will aid him in organizing his business in such a way as to secure the greatest continuous profit. It is believed that the farmer may be taught farm management principles most effectively through the use of farm accounts. For this reason the immediate objectives of the extension forces in farm management work are first, to impress upon farmers the importance of accounts and second, to show them just how to keep them.

In putting such a program into operation the farm management specialists find themselves confronted with an enormous task. Iowa has 200,000 farmers and it is obvious that a few specialists can do personally but little in carrying the message of farm management to such a large number even though they work only with groups. The only way by which any great amount of farm management subject-matter can be disseminated effectively is through the use of local leadership and it is with this thought in mind that the work is being developed.

The agency to which Iowa turned for local leadership on the farm management program was logically the farm bureau which acts in part through committees and voluntary demonstrators but at present principally through the county agents. Though the county agents have been anxious to conduct educational work in farm management many have found themselves seriously handicapped in assuming this leadership because their training has been along lines other than farm management. Not more than twenty of the one hundred county agents in Iowa had any farm management training in college and it is unlikely that more than five had adequate training as undergraduates. It is doubtful if many other states are more fortunate. With such a situation existing it is apparent that farm management extension work

[1] Address given at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 11, 1919.

will not be done effectively in a large way until the local leaders have become familiar with the best methods of reaching their people as well as with the subject-matter itself. It should be clearly understood that county agents should not be criticized for not having had training in farm management because the subject is of recent development in most colleges and in others but little provision has, even at this date, been made for an adequate farm management department.

When farm management demonstrations were launched in Iowa in September, 1914, the plan as outlined by the States Relations Service was placed in operation. In accordance with this project farm analysis records were secured by the survey method from sixty or seventy farmers occupying contiguous territory. The labor incomes and efficiency factors were computed and some tabulating was done to show the relation to profits of such factors as size of business, crop yields, productivity of stock, and diversity. The analysis of the area as a whole and of typical farms was presented to the coöperating farmers as a group and a conference was held later with each farmer during which the efficiency factors of his own farm were discussed. In securing and returning records the county agents coöperated generously but the computing was done largely by the Agricultural Extension Department.

This method of conducting farm management demonstrations had not proceeded very far before some disadvantages became evident. Many coöperators lacked confidence in the results obtained because the survey method was used quite extensively in securing the data. On more than one occasion the objection would be raised, "It is all guess work anyway." The Iowa demonstrators, it should be stated, have never wavered in their confidence in data secured through careful surveys but they found it psychologically inexpedient to approach the farmer with survey data alone. This led to the preparation of a simple record book which was distributed to the first group of cooperators early in 1915 when their records were returned. A second deficiency of the early plan of work lay in the fact that due to necessary preliminaries in connection with each area too small a percentage of the demonstrator's time, probably not more than one fifth, could be spent in prosecuting his real work—the teaching of farm management in the field.

It must be admitted, however, that the time spent in the gathering and digesting of the data secured during the first year or two of the work in Iowa was not an unmixed evil. The investigational department had not been in operation long and there was no great body of

data available on which to base extension teaching. It was necessary to proceed with extreme caution while this condition existed.

During the first two years following the inauguration of the work in farm management demonstrations too many coöperators were selected on the basis of location. It was thought at that time that they should be selected from contiguous territory so far as possible. At the beginning of 1917 this policy was modified and since then new coöperators have been chosen from those who desired to keep records and study their business without regard to their location.

In accordance with this new plan farm management demonstrations were launched in several counties shortly before the outbreak of the great war. This plan, it should be stated further, provided for work with groups instead of individuals—a method, which would reach more farmers and at the same time would be more valuable to them because of the part they took in laboratory work. The actual operation of the group method of work showed that it was practical. The farmers could not only be induced to make their own inventories but they seemed to relish the job. The new project gave great promise of success, but due to the confusion that prevailed in the early days of the war it did not have a fair trial though results in one or two counties were nevertheless quite favorable.

That the Income Tax Act of October 3, 1917, would have a profound influence in hastening the development of farm management extension work became evident at the very beginning of 1918—when internal revenue collectors were seeking the 1917 revenue—through numerous calls from farm bureaus desiring light on the Income Tax Act and its bearing on farm records. Many meetings—some with as many as two hundred present—were addressed by the demonstrator, but they were not entirely satisfactory because they afforded but little opportunity for teaching farm management though they furnished an excellent chance to urge the keeping of labor income records. The income tax instruction could not be considered an end in itself; it was merely a means to an end.

Not long after the organization of all counties had been completed, due to the agitation on price fixing and a decided lack of information on the subject of costs among farmers generally, a keen interest in the subject of cost of production became manifest and state and federal authorities aided in planning a campaign designed to reach every farm bureau for the purpose of teaching cost finding principles and the proper interpretation of cost records and for the further purpose of aiding those who might wish to keep one, two, or three single enterprise records.

To acquaint every farm bureau quickly with the details of the plan was a difficult matter because of the limitation in the size of the force of farm management specialists. On the day that war was declared Iowa had 24 farm bureaus with agents, but within less than a year the number of bureaus had increased to one hundred and on February 1, 1918, every bureau had an agent. Four specialists could not reach quickly so many individual counties. Through fifteen district conferences held in May, 1918, Director R. K. Bliss and State Leader J. W. Coverdale made it possible for the farm management demonstrator to present to farm bureau representatives—including officers, members, and county agents—a cost estimating demonstration together with plans for carrying the work into the individual counties. By means of these district meetings there were reached 97 county agents, 25 farm bureau presidents, 6 farm bureau secretaries, 26 farm bureau directors and 64 others most of whom were farmers.

At these conferences a cost estimating demonstration was given, showing the method of arriving at production costs on some farm enterprise. In the course of this demonstration it was pointed out that farmers, themselves, as a class knew but little about the cost of producing farm products and that consumers likewise knew but little concerning food production costs. The possibility of securing more efficient use of labor and feed—matters of prime importance always and especially so during the war—through the use of records was emphasized and the use of records in the formulation of the farm bureau program was discussed briefly.

It was urged that farm bureaus and public-spirited farmers adopt some definite plan of studying the economics of farming and plans were outlined with 76 farm bureaus for getting the work under way. It was suggested that each county arrange a preliminary meeting of not to exceed thirty farmers before whom a cost estimating demonstration should be presented and that five or six of those most interested should be invited to return later in the day for the purpose of starting an enterprise record. This program was carried out in 76 counties and 1182 farmers attended the cost estimating demonstrations. Of those attending these demonstrations 534 signified their willingness to keep records; 337 chose enterprise records on hogs; 248 on corn; 135 on beef cattle; 71 on dairy cattle and 23 on other enterprises.

It should be clearly understood that the limitations of such records as sources of investigational material were thoroughly appreciated by the Agricultural Extension Department; the work was funda-

mentally demonstrational. The annual report of the demonstrator for the year ending June 30, 1918, reads in part as follows:

"There is no disposition to use the figures kept by coöperating farmers for investigational work. Farmers will find them of value if prices are fixed on other commodities. Besides they will be better enabled to decide what and how much of each enterprise to include in the farm business and in what ways their labor efficiency can be increased. Farm bureaus will find the figures useful in helping them plan their programs and as aids in publicity."

It should be noted in passing that the county meetings were held during May and June—principally the latter—and as the records were based on the calendar year the period was almost half over. This made it difficult for those who undertook to keep records. They had to estimate many items and in some cases there was not enough time at the meeting to aid them materially. Immediately following this the plans outlined were seriously interfered with by the oncoming harvest season and later by the epidemic of influenza. While under these adverse conditions the percentage of completed records was comparatively small the cost estimating demonstrations, themselves, impressed the farm bureaus with the fact that there was a woeful lack of information among farmers and others with reference to the business of farming.

Late in 1918 a few counties established farm management committees. It was believed that these committees would be useful in aiding the individual members in the study of their business and also that their advice would be helpful to the farm bureau on matters of economic policy. Until recently results seemed to indicate that few bureaus were ready for such committees, but the rapid growth in membership places a different aspect on the matter. Most bureaus now believe that they must rely on committees in their activities to a greater extent than ever.

One of the principal activities in farm management extension during the early months of 1918 was conducted in accordance with a plan that is known generally as a short course or extension school. The general program provided for lecture work on farm management and laboratory work on the Farm Business Record. This was varied somewhat to suit the desires of farm bureaus. Institutes and special meetings that conformed closely to the short course type were also used in many counties.

In May, 1919, the demonstrator was asked to present to ten group meetings of farm bureau representatives preliminary plans for the

winter work on farm management and to discuss the farm bureau program with reference to its farm management aspects. The advisability of conducting farm management and other farm bureau work with groups instead of with individuals was considered and the formulation of a program based on economic needs was urged. At these conferences there were present 99 county agents, 15 farm bureau presidents, 25 other officers, 25 farmers, and 22 others.

In response to requests that came from county agents Director R. K. Bliss and State Leader Murl McDonald, during the month of October, arranged for a series of farm management and income tax conferences where most of the day was given over to consideration of farm management problems. At this time the farm management specialists presented a demonstration of a One Day Farm Management Short Course which will be the principal type of work available to farm bureaus during the coming winter. At these conferences there were present 82 county agents, 19 farm bureau officers, 23 farmers, and 51 others.

The main purposes of the Farm Management Short Courses are, first, to show the farmers how to keep farm records and second, to demonstrate how to use them in the study of their business and in fulfilling their income tax obligations. In addition the program considers labor efficiency as related to crop rotation and also includes a discussion on the relation of land values to labor income. At the conclusion a cost-estimating demonstration is given and the value of cost records is touched on from the standpoint of the individual, the county farm bureau, and the state farm bureau federation.

During 1919 farm management exhibits were held at 17 county fairs. In these exhibits was featured a simple but adequate farm office, and emphasis was laid on the idea of a well-balanced farm. It is not contended that county fairs use a specialist's time as effectively as does the winter work; the winter season is the harvest time in farm management demonstrations. In spite of this fact it seems advisable to continue the fair exhibits because some farm management can be disseminated and it is better to take advantage of this opportunity than to omit to do what field work is possible through fairs during August and September.

Several lines of work in addition to short courses will be undertaken in 1920. Groups of thirty tenants or landlords or a mixture of the two will be called together to discuss farm tenancy wherever farm bureaus find sufficient interest to warrant it. The Farm Management Department has recently outlined a stock share lease which will

be used as the basis for these discussions. The Farm Management Section is attempting to launch club work on a small scale. Arrangements will also be made to prepare farm management exhibits for county fairs in which a small model of a well-arranged farm will appear. Appropriate cards will show the probable profit of each enterprise and the amount of plant food removed by each crop.

As the work is developing it is becoming more feasible to present farm management subject-matter. Indeed the demand for farm management data bids fair to outrun the supply. The Iowa farm management investigators and those of the Federal Department as well are making available new data as rapidly as they are compiled. This thorough coöperation of investigators aids materially the work of the extension specialists. It is not believed that demonstration work can be effective unless it has back of it extensive data, appropriate in its nature, prepared by a sympathetic investigational department and it is earnestly hoped that every state college will soon be provided with such a department.

Farm management extension work is still in its infancy. While there is great need of farm management subject-matter there is even more urgent need of knowledge with reference to methods of presentation. The efforts of farm management demonstrators will accomplish but little unless they have suitable facts available and know how to present them. Demonstrators should work with farm bureaus through the employed agents in accordance with a program, adapted to the respective counties, which program the agents themselves have aided in working out. By no other method than through farm bureaus can the entire territory be reached and in no other way can the program be made to meet the needs of the county.

AN ENTERPRISE COST STUDY IN KENTUCKY.[1]

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In the early spring of the present year, the Kentucky Agricultural Experiment Station and the Office of Farm Management, U. S. D. A. coöperating, began an investigation of the cost of producing tobacco, the object in mind being to ascertain the quantitative units of labor and materials used in the production of the crop, also the total cost in dollars and the correct relation of the crop to other farm enterprises. Two routes were laid out, one in the Burley District with Mr. W. R. Gabbert as field man, the other in the Dark Tobacco District with Mr. J. B. Hutson in charge. Mr. F. W. Peck is in general charge for the Office of Farm Management and the writer for the Kentucky College of Agriculture. Each of the field men has an automobile, for the use of which he is remunerated on a mileage basis, and each covers his entire route once a week, visiting the farmers with whom arrangements have been made to make daily records of expenditures of labor, materials and cash for the tobacco crop. On these weekly visits the route man checks the records carefully to insure their accuracy.

Both the route men are native Kentuckians and were brought up in the tobacco field. Both are graduates of the college of agriculture of the University of Kentucky. That they have been able to retain the good will and continued coöperation of the farmers is evidenced by the fact that out of 170 coöperators with whom the work was started all but seven have continued to the present time, 163 records having been kept up to date.

In selecting the coöperators no effort was made to get the most successful growers but rather to have them fairly representative of the general average. Special record sheets bound in tablet form with spaces for recording the hours of man, horse, boy or woman labor and for cash expenditures were left with each coöperator. Any winter plowing or other work already done or any expenditures already made were recorded and subsequent expenditures entered

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 13, 1919.

daily by the coöperator or some member of his family and checked by the field man on his weekly visit to the farm. A given set of farms located on a given road are visited the same day each week and as far as possible at about the same hour of the day so that the coöperator knows about when the field man will be at his place. Usually about half the coöperators on any day's route are visited in the forenoon, the field man eating his dinner at the end of the route farthest from headquarters, visiting the remaining coöperators in the afternoon. From 12 to 15 coöperators are visited daily, this being possible because of the excellent hard surfaced roads in both the districts. The accuracy of the farmer's figures or possible omissions are checked by engaging him in conversation relative to the farm operations of the preceding week. After three or four visits the field man learned which of the coöperators required the special supervision and accordingly checked the entries of these men with special care.

Inventories were taken on the farms of the coöperators in the early part of the year with the expectation of securing a labor income record of each coöperator for the current year. The land planted to tobacco on each farm was carefully measured and the acreage determined.

For a better understanding of the economic conditions surrounding the production of tobacco a brief review of the history and operations connected with the production of the crop will be helpful. Tobacco production in Kentucky antedates the advent of the white man. Marquette and La Salle found the plant being cultivated by the Indians in the Mississippi and Ohio Valleys as early as 1669. In 1775 white settlers introduced the crop and cultural methods from North Carolina and Virginia. Since that early date the crop has steadily increased in economic importance. The acreage has more than doubled in the past thirty years. At present the crop equals nearly one third the value of all crops produced within the state. In 1917 it brought the growers more than 98 million dollars; in 1918, more than 130 millions, while there is every indication that the current year's crop will bring as much or more than that of 1918. The production of tobacco in the United States in 1918 was in round numbers 1¼ billion pounds or about one half of the world's supply. Of this Kentucky produced 427,500,000 pounds which is about one third of the production of the United States and one sixth of the world's production.

The period from 1900 to 1907 witnessed a serious depression in

the tobacco-growing industry. Producers received an average of about seven cents per pound during that time. It was claimed that this was less than the cost of production and that it meant starvation wages for the tobacco tenant and bankruptcy for the land owner. Responsibility for the low price was attributed by the growers to the tobacco trust which by absorbing the independent manufacturers had eliminated competition in buying the crop. As a result, growers' protective associations and pools were formed for the purpose of securing better prices. Great excitement and bitterness was engendered and the entire tobacco growing area in Kentucky was plunged into a condition of turbulence marked by the burning of tobacco warehouses. the scraping of plant beds, the coercion of non-members of the association, and other acts of violence. The lawless element which was responsible for these outrages constituted a small minority of the organized growers, yet these gained for the state much unfavorable publicity throughout the country.

Following this period of disturbance came a considerable advance in tobacco prices, with an increased interest among farmers in the growing of the crop. In 1917 growers received an average of 20 cents per pound; in 1918, nearly 23 cents; and in 1919 about 30 cents. In the Central Kentucky Burley district the price has advanced 200 to 300 percent in the past ten years. Many crops during the past two years have brought as much as $1000 per acre and in some cases $1500. One 50-acre crop of Burley tobacco in Scott County, a few days ago, was sold for 85 cents per pound, or more than $60,000 for the 50 acres.

As would be expected these high prices for tobacco have resulted in a marked increase in land values. In central Kentucky where the advance in the price of tobacco has been most marked there has been the most rapid advance in the price of land, in many cases more than doubling in sale value in the past three years. Hundreds of large farms have been subdivided and sold, in many cases to tobacco tenants and small farmers who have been able to realize from the sale of high-priced tobacco sufficient money to make a substantial first payment on the land purchased. In numerous cases small tracts purchased by men of this class two or three years ago have already been paid for from the proceeds of the sales of the tobacco crop. These conditions are tending to bring about a change in the extensive or grazing type of farming which heretofore prevailed, to an intensive system in which a larger area is devoted to the tobacco crop.

There is an element of serious danger in this rapid increase in land

prices for the reason that only a limited amount of land on the average farm is first-class tobacco land, yet the entire farm acreage has tended to advance proportionately. Furthermore, the average farm is equipped with barn room for housing tobacco grown on not more than one tenth to one fifteenth of the total farm area. New barns must therefore be built if the tobacco acreage is increased and these cost from $250 to $400 per acre capacity.

Broadly speaking, the tobacco growing area of Kentucky may be divided into two principal districts. The first of these is the central Kentucky district producing the so-called Burley — an air-cured tobacco used chiefly in the production of chewing tobacco and plug cut smoking tobaccos, such as the Prince Albert, Tuxedo, Velvet and similar brands. The other district occupies the southwestern and western part of the state and produces the co-called Dark Tobacco, the greater part of which is fire-cured and is sold largely to foreign buyers for export to England, Germany, France, Italy and Spain. In a part of the area of the Dark Tobacco district (the so-called Green River district) the crop is air-cured. Otherwise the methods of cultivation and handling, and the varieties grown are similar to those of the remainder of the Dark Tobacco District.

Burley Route.—Lexington is route headquarters for the Burley cost studies, being in the center of the rich phosphatic limestone area which has the most fertile soil in the state. Records are being kept on 56 farms within a radius of 15 miles of Lexington. In order to get cost figures on the poorer soils of the Burley district this route was extended into northern Scott County, a region of thin and hilly land. Two days a week are spent in visiting the 30 coöperators in that section. There are 86 coöperators in the Burley district.

The price of land in the Burley district ranges from $150 to $600 an acre in the eight or ten counties of the Bluegrass Region proper and from $100 to $300 an acre in the twenty-five or thirty Burley counties bordering the best central Kentucky Bluegrass counties. Much the greater part of the tobacco crop in the central Burley counties is raised by share tenants, while a considerable proportion of the crop in the poorer outlying counties is produced by the farm operator with the help of his family or hired labor.

Dark Tobacco District.—The cost studies for dark tobacco are being carried on in Christian County, Hopkinsville, the county seat, being the headquarters of the field man. The work in this county is laid out on six of the principal roads, two of which extend into the

fertile section of the southern part of the county, two into the thinner soil area of the northern part and two into areas that border and connect the typically northern and southern sections.

In southern Christian County the farms range from 150 to 500 acres in size. Most of the soil consists of yellowish brown to brown, yellow, silt loam underlaid by a silty clay sub-soil of reddish-brown color. This soil has limestone foundation. The land in this section sells from $125 to $200 per acre. The most common rotation here is corn or tobacco one year, wheat one or two years, and clover one year. About 10 percent of the total farm area is cropped in tobacco. Farmers have secured as much as 2000 pounds per acre on this land but the average yield is less than 1000 pounds per acre. Practically all the labor is done by negroes, about one half being wage labor and one half share labor.

In northern Christian County the farms range from 50 to 200 acres in size, the soil is less fertile, being a gray to pale yellow silt loam with a yellow silty-clay subsoil. This soil is of sandstone foundation. The land sells for from $25 to $75 per acre. There is no regular rotation system in this section, the most fertile spots being used for tobacco. Most of the labor is done by the farm owner and his family. A much larger proportion of the crop acreage is in tobacco in this section than in southern Christian County. Practically no crops are sold in northern Christian County except tobacco.

The tobacco crop entails a large amount of labor and is subject to considerable risk and to unusual price fluctuations. A study of the economics of the crop is needed not only to work out the most economical handling of the crop but also to show to what extent the available acreage and labor of the individual farm should be devoted to the crop, and what other crops and live stock enterprises fit in most profitably with the tobacco crop. In past years it has been claimed by some farmers that the raising of tobacco is an unmitigated evil, causing the farmer to permit the weeds to grow along the fence lines and in the corn fields, that the crop depletes soil fertility and keeps the children out of school to help in its cultivation and handling. Some farmers have carried the crop to the point of neglecting and sometimes even excluding all other enterprises. This study will show at what point between these two extremes lies a rational and profitable system. The experience of the most successful farmers indicates that the growing of tobacco in reasonable acreage and in a proper rotation does not deplete soil fertility, that in fact, considerably better

yields of wheat, clover and grass are obtained after tobacco than after corn, and that best profits are obtained by combining the proper acreage of tobacco, feed and forage crops, with the correct number and kind of livestock.

The work in this tobacco study is being continued and final figures for the year's work should be available by the early spring of the coming year.

REPORT OF COMMITTEE ON COST INVESTIGATIONS. TENTH ANNUAL MEETING, AMERICAN FARM ECONOMIC ASSOCIATION.

In February, 1919, the Secretary of Agriculture called together a committee "To Consider Plan of Organization, Scope of Work, and Projects for the Office of Farm Management, and Methods of Procedure in Making Cost of Production Studies." The recommendations of this committee were published in Circular 132 of the Office of the Secretary, United States Department of Agriculture.

The members of the above committee were all members of the committee on cost investigations, except Mr. E. H. Thomson, who was at that time Acting Chief of the Office of Farm Management. Your committee recommends the method of procedure for cost of production studies as given in Circular 132, Office of the Secretary, U. S. D. A., and suggests that these methods be used by members of this association.

G. F. WARREN, *Chairman.*

THE APPLICATION OF INVESTIGATIONAL DATA TO THE REORGANIZATION OF THE FARM.[1]

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Farm management investigations, and I take it that I am to limit my discussion largely to such, reach back not more than two decades. The early work of Roberts, Hunt, Bailey and Warren, of Cornell University, which was developed along the line of agricultural surveys and financial records of one kind or another, is not yet two decades away. The work of W. M. Hays, and others in Minnesota, along the line of discovering the unit factors of cost in production, dates back only to 1902 and their work of developing farm plans and methods of crop rotation, as applied to farm organization, only a little farther. Yet these are the pioneers in farm management investigation. Any data now used in the organization or reorganization of farms are pretty likely to trace back, in their inception, to one or the other of these sources.

Because of the meagerness of reliable and accurate data relating to the farm business prior to 1910, very few attempts were made to organize the farm business. With the growth of the investigational work, however, and with the definite recognition in 1910 of farm management as a field for instruction and investigation, there came a decided awakening to the possibility for farm organization. The methods of analyzing the farm business as worked out by Dr. G. F. Warren and his colleagues at Cornell University, in coöperation with Dr. W. J. Spillman and others of the Federal Department of Agriculture at Washington, have been widely used in studying farm organization. They provide many excellent suggestions for measuring farm profits, for comparing relative profits from different enterprises, and for improving and stabilizing farm operations. The unit factors of cost and the labor requirements worked out in some of the states also have proven of value in developing plans for the organization of profitable farming. Investigations made in various states have supplemented and enlarged upon these early investigations and each has contributed data of value in farm organization.

[1] Paper read at the tenth annual meeting of the American Farm Economic Association, Chicago, Illinois, November 11, 1919.

The Kind of Data to Apply.

I have been unable to devise a better way of indicating how investigational data may be applied in the reorganization of farms than to discuss the available data in connection with definite steps in the process of farm organization. I should emphasize first perhaps the importance of using only data secured under conditions normal to the type of farming that is being considered. The data also should be based on sufficient records or measurements to overcome radical variations or individual practices. Data taken from single farms, from overcapitalized farms, or from institutional farms supported by public funds, are of little use in determining correct farm practices for a community or group of farms. It is true that the record of a very exceptionally well-organized and profitable farm can be used to demonstrate a principle or to illustrate an idea or plan of organization. But data taken from a large group of good and poor farms, as normally operated, reflect in a far truer way, the average results that are likely to be obtained and that can more safely be used as base data in farm organization. An exceptionally profitable farm or an exceptionally well-organized farm, so far as capital distribution, labor employment, and equipment are concerned, may serve as an ideal toward which to work. Such a farm often provides the inspiration which leads toward better organization. Choosing data for use in the reorganization of a farm is much like writing a prescription for a sick person. Much depends on the nature of the ailment and something on the remedies available.

Problems in Farm Organization.

The problems in farm organization to which investigational data should be applied are best indicated by the inquiries of farmers who have farms that they wish to organize. They are often brought to our attention by the inquiries of the city man who is a prospective farmer and who wishes to know how to organize a farm. One of the first questions usually propounded is in regard to capital investment. How should my capital be distributed in land, buildings and operating capital? With a given amount of capital would it be best for me to buy a farm or would it be best for me to buy equipment and rent a farm for a time? How large a farm should I buy? What enterprises can be combined most profitably? These, and many similar inquiries, indicate the type of information desired by the man who wants to organize a farm. As a basis for answering the inquiries we

have a considerable mass of data taken from farm management surveys in various states. Bulletin No. 295 of Cornell University was the first to give any data bearing specifically on these questions. Table VII. of this bulletin brings out clearly the fact that capital has a considerable part to play in the earning of profits from farming. It shows that the labor income of the farmer increases consistently as the capital investment increases. While the data do not tell just how much capital should be invested in a farm, they do establish the principle that a reasonably large capital investment is more likely to give a larger labor income than a small capital investment. These data are supported by the results obtained in a survey made in Indiana, Illinois and Iowa and reported in bulletin No. 41, Bureau of Plant Industry, U. S. Department of Agriculture. This principle has been confirmed by numerous surveys made in other states and almost without exception leading to the same results. The principle therefore, which is based on investigational data, can be applied safely in giving advice regarding investments in farms.

Ideas about the proper size of farm have been revolutionized since farm management surveys were made. The old idea was that farms were too large, that a small farm well tilled paid better than a large one. That this was largely an assumption is shown by data submitted originally in Bulletin No. 295 of Cornell University, again supported by data in Bulletin No. 41, U. S. Department of Agriculture, and confirmed by numerous other surveys. Table XXVII., Cornell Bulletin No. 295, brings out clearly the fact that farms of small size returned small labor incomes, and that there was a consistent increase in labor income as the farms increased in size. This holds true at least up to an average size of 261 acres. Data in Bulletin No. 41, U. S. Department of Agriculture, indicate that labor incomes increase as farms increase in size to 623 acres. Whether or not the labor income would continue to increase as farms increased in size above this figure has not been so clearly demonstrated. There are a number of instances, recorded, however, where larger farms have paid larger incomes. The data available would indicate that up to within reasonable limits one is safe in assuming that other things being equal the larger the farm the larger the labor income, under good management.

The principle is also established in farm management surveys that it is good policy in the organization of a farm to limit the amount of money invested in buildings unless they are used for productive purposes, and that the larger proportion of capital can well be invested in land of good quality with a generous proportion reserved for operating

expense. These three principles are perfectly safe to use in the organization of a farm. They are based on investigational data from many states and are drawn from averages of large numbers of farms which are operated under normal conditions. While the exact scientist may feel that these are not accurate investigational data, it must be admitted that they serve the same purpose and that they are of direct value in planning the reorganization of a farm business and in the investment of capital.

Data on the Farm Layout.

The second question asked, as a rule, is how shall I plan my fields and lay out my farm? Obviously it is difficult to get exact data to apply on such a question when one recognizes the fact that the soil on every farm is different from that on other farms. When one considers the differences in climatic conditions, topography, and in commodity demands, it can be seen that there is no exact answer to the question. As in determining the investment of capital and size of farm, however, there are principles that can be applied. Calculations made by enthusiastic mathematicians and observations made by farm operators have demonstrated the fact that the arrangement of the farmstead and its location has considerable to do with the profitable operation of the farm. It is important that the farmstead be centrally located so as to give easy and direct access to the fields. This saves time and effort on the part of the farmer and his teams, and time is money on the farm if it is any place. Again, observation and data have shown that the arrangement of the buildings on the farmstead, and the grouping together of those in which the work is closely related is important in saving time and labor in performing the farm operations. Data on the subject are meager, to be sure, but the principles have been well established and are generally accepted. Some data covering these points have been published in bulletin form in books on farm management, and in current periodicals.

Field plans and rotation schemes based on crop rotation data are offered in numerous bulletins, and in other publications on crop rotations. Again, it must be admitted that there are no exact data that can be applied to making divisions of farms into fields. Topography, character of the soil, nature of the crops to be grown, and various other factors will govern in this matter. Calculations can be made, however, and principles applied. These relate to the size of the fields, the shape of the fields, though it is not always possible to regulate this, and to the number of fields. The publications mentioned above

are suggestive and offer many good illustrations of how efficient field plans can be developed.

On crop rotation, fortunately, we have considerable helpful data. The investigations made at Pennsylvania State College, at the Ohio Experiment Station, at Illinois, and at Minnesota are especially useful in determining good cropping practices. While the investigations were not originally contemplated as bearing on farm management, perhaps, the fact remains that the data drawn from them are very useful in organizing good crop rotations, and in determining correct farm practices. In planning rotations consideration should be given, of course, to the relative profits from different crops and classes of stock, to the feed supplies needed for the farm, to the cash crops that are desired for sale, and to the maintenance of the fertility of the soil. The conditions governing the first items will vary with the individual farm. The maintenance of fertility, however, is a more universal problem. On this question there are data that can be applied. The data supplied in "Soil Fertility and Permanent Agriculture" by Hopkins, are useful in this connection. While this again is the work of a chemist and was not developed with the specific idea of determining farm management practices, it can be adapted admirably in determining the draft on the soil of the various farm crops. No plan for crop rotation or crop growing on any farm is complete without calculating the probable draft on the soil elements and without making provision for replacing them. This involves estimates of the amount of manure likely to be returned from the livestock, and of the amount of fertilizing material which is contained in the soil. There are data in Hopkins' "Soil Fertility and Permanent Agriculture," or in Van Slyke's book on "Feeds and Fertilizers" that enable one to determine the probable draft on the soil by each of the crops and the total draft by all of the crops; also to determine the amount of fertility returned in crop residues, in manures, and from green manure crops. The differences between the two will show whether the soil is being enriched or impoverished by the schemes of cropping. Such a plan involves considerable calculation, but the results warrant the time and effort expended and will make more probable the adoption of a scheme of cropping that will be conservative of fertility.

Data Applied to Livestock Problems.

Feeding standards have been established by chemists and nutrition experts. It is an easy matter to calculate balanced rations for each class of stock from data worked out on the composition of feed stuffs

by chemists. This is the first step in the process of applying investigational data to the reorganization of livestock enterprises. The next one is to estimate the possible production of feed supplies. This is a matter of calculation of acreages and yields. A knowledge of the yields of the farm to be reorganized is the best basis to work from. Where this cannot be had data can often be taken from a community survey of the vicinity which fairly approximates conditions. The purpose of the calculations is to learn the feed requirements for all classes of livestock to be kept on the farm. Sound farm organization contemplates the production of the bulk of feed supplies on the farm. The question of manures for restoring fertility is quite as closely related to organization as are feed rations and feed supplies. Data covering this phase of the subject are provided in Warren's "Farm Management" and in Hopkins's "Soil Fertility and Permanent Agriculture."

Quite as useful, perhaps, as any data bearing on the livestock questions are those relating to animal units. These data, while arbitrarily established, provide a rough basis of comparison between farms and for determining when a farm is fully stocked. They also enable comparisons between farms as to receipts per unit of productive stock. The density of the livestock population is indicated by the statement of acres per animal unit.

More exact data are available concerning feed requirements per unit of production. Publications from several states now provide tables showing the grain, roughage, silage and pasture units required in making a hundred pounds of milk under farm conditions. Other publications give the grain and grain equivalent required to make 100 pounds of salable hogs. These are taken from records of feeding under farm conditions. Such records give the best possible data to apply in determining the plan for organizing the livestock enterprises of a farm.

Data on Farm Equipment.

Machinery is a large factor in the organization of a modern farm. Over-investment in machinery is possible, but rarely found. Efficient use or full occupation is important in getting returns on machinery investment. It has been well shown in farm surveys that machinery is much more efficiently used on large farms than on small ones. Data on the capacity of machines and of what is a day's work with different implements are very useful in determining the necessity for the purchase of implements. Several publications are now available containing much data that are useful in determining what may be ex-

pected daily of workmen at various kinds of work with implements of various sizes and kinds. The use of power or large-sized machinery or implements in reducing the operating costs in farming is a live question. In farm reorganization it is impossible to avoid consideration of tractors, gas engines and other forms of motive power. Whether or not they can be profitably used depends upon the economics of farm power problems at the time. I am not bold enough to assert that there is yet any data available which truly indicates when mechanical motive power should replace the horse. There are some data bearing on the question, but as yet one should at least use "horse sense" as well as the available data in choosing between the two.

Organizing the Labor Demands.

Labor is the largest single factor in the making of farm products. The efficient use of labor has more to do with successful farming than is usually acknowledged. Careful plans for conserving the energies of man and horse labor are seldom made by farm operators. Yet complaints are heard on every hand that farm labor is scarce and that wages are too high. Because most of the farm labor is performed by the farmer and members of his family it is often expended without regard to the possibility of returns. It is often wasted on enterprises that pay but a small return when it might more profitably be employed on others. Records from successful farms show that profits from farming are largely derived from labor expended on productive enterprises.

In order to use labor wisely it is necessary to know how many hours daily, monthly and yearly may be expected from men and horses. It is also well to know what the monthly, seasonal and annual demands for labor will be. With these facts known it becomes possible to so reorganize the farm enterprises as to efficiently employ the labor at all times. Where labor supplies are limited for a season it may be possible to substitute crops or enterprises for the usual ones that will take less labor or demand labor at an unfilled period. Bulletins on "Labor Requirements of Crop Production," also "Labor Requirements of Livestock" present data which can well be used in studying the labor problems on many farms. With the labor requirements per acre for each operation in the growth of a crop, and the total labor requirements per acre given, it becomes possible to calculate the seasonal and total requirements for the production of crops on the farm in question. Similar data on the annual labor requirements for all classes of livestock give the basis for the calculation of total labor

requirements for crops and stock. To this must be added the maintenance or unproductive labor to get the labor requirements for the farm. The unproductive labor is usually 18 to 25 percent of the total on diversified farms. It has been found to run as high as 42 percent on a large grain farm. When the total labor requirement has been learned it may be compared with the probability of labor from the supply available. Thus an estimate may be made in advance and a labor shortage avoided by the introduction of crops or enterprises demanding less labor. Or, if the indications are that the labor available will not be fully employed, more intensive crops or a larger quantity of livestock can be introduced to give full employment. In this way the labor demands of a farm can be largely reorganized. By the proper choice of crops and livestock enterprises competition for labor can be largely avoided and "peak loads" reduced.

Marketing Data Useful.

Until recently the farmer has been concerned chiefly with production. It is possible that production is still his chief concern. But surely no phase of the farmer's business offers a better opportunity for reorganization than the one which deals with getting his products on the market. Data on seasonal prices and market fluctuations over long periods of years are useful in showing the favorable times for marketing. Statistical studies of world crops, demands and supplies, give information which frequently enables one to hold or to sell to advantage. This is a method of increasing the labor income that has been but little used by farmers. The profits of good management in production may easily be eaten up by poor marketing.

In Conclusion.

It may be said in conclusion that much of the farm management data derived from investigational work would be reluctantly accepted by exact scientists. Yet the principles which have been evolved from agricultural surveys and from cost of production studies seem to hold just as truly as many that are based on exact sciences. The relation of size of farm business, of capital investment, of productivity of crops and livestock, and of efficient direction of labor, to labor income has been demonstrated so often and so clearly by different investigators as to be axiomatic.

These may safely be made a measure of comparison between farms or between a single farm and the average of the farms of the community. Some data are available and can be used in farm reorganiza-

tion that will make farming more systematic and profitable as well as more satisfying to the farmer.

The past twenty years have given some insight into the complexities of farming. But more accurate data as well as more data are needed. The data we have need refining and polishing. New "measuring sticks" are in demand. The old ones should be more finely graduated. Satisfactory recipes for farming cannot well be written until still finer analyses of the farm business can be made. Farm management investigations providing for accurate records over long periods of time and including large numbers of farms will give the basis for such analyses. Farm organization data should be as easily available as data tables on civil engineering or as interest tables. Farming is not and cannot be made an exact science. It can be made less risky, however, by a more accurate knowledge of the ingredient parts and this knowledge can come only from careful investigations.

THE WORK OF THE OFFICE OF FARM MANAGEMENT AND ITS RELATION TO THE AGRICULTURAL EXPERIMENT STATIONS.[1]

H. C. TAYLOR.

It is with great pleasure that I find myself representing the interests of economic research at a meeting of experimental station directors. Prior to the days of experiment stations the economics of agriculture was better developed than were the physical and biological sciences in their relation to agricultural problems. As evidence of this condition attention is called to the English literature of the latter part of the eighteenth century and the first part of the nineteenth, especially the extensive writings of Arthur Young and William Marshall, the county agricultural surveys made by the Board of Agriculture and the writings of Adam Smith, James Anderson, David Ricardo, T. R. Malthus, and others relating to the economics of agriculture from the individual, the social and the national point of view.

That the new impetus to agricultural research should be in the less well developed fields is rational, and since it was work requiring the experimental method which was most needed it is perfectly easy to understand why the institutions established by Federal aid were called experiment stations instead of research stations. With the development of the experiment stations those lines of research work requiring the experimental methods have made great progress, but the slight attention given, for the time, to other methods of research has left subjects like economics, which lend themselves to the accounting, statistical, historical and geographical methods rather than to experimental methods, relatively undeveloped. Should not the experiment station study all the forces in the farmer's environment whether they be physical, biological or economic forces? If not, should another research organization coördinate with the experiment stations be developed for this work? The directors of experiment stations are answering these questions by accepting the view that every method

[1] Paper read at joint meeting American Farm Economic Association and the Experiment Station Section of the American Association of Agricultural Colleges and Experiment Stations, Chicago, November 12, 1919.

which will throw light on the subject should be used in agricultural investigations and that the whole list of problems confronting the farmers should be studied. With this broadening of the scope of the experiment stations the studies which have been introduced under the various titles of farm management, farm economics, rural economics and agricultural economics, rural life and rural sociology, require our especial attention.

As early as 1905 the Office of Experiment Stations established a section on rural economics in the Experiment Station Record. In 1904 the United States Department of Agriculture started the work in farm management which remained in the Bureau of Plant Industry until 1915, when the Office of Farm Management was established in the Office of the Secretary. In 1913 the department started work in markets and rural organization. In 1908 the Graduate School of Agriculture first gave recognition to this subject by giving it a place in one evening program. In 1910 agricultural economics, farm management and rural sociology were given a major position in the graduate school. By this time many colleges and stations were putting in courses of study and stimulating research in this field.

In the establishment of this new line of work, men especially trained for the work were scarce. As a result recruits were necessarily accepted from various other branches of agriculture and from the field of practical experience.

Courses of study have been developed in this field and the condition which has been mentioned has improved rapidly within recent years. An important step was taken when Secretary Houston called a representative committee together last February to plan the reorganization of the Office of Farm Management. That committee outlined the research work to be carried out by the proposed Bureau of Farm Management and Farm Economics in coöperation with the agricultural colleges and experiment stations. This outline of work, with slight modifications made by later conferences, is as follows:

OUTLINE OF RESEARCH WORK IN FARM MANAGEMENT AND FARM ECONOMICS.

I. Cost of production—
   1. Financial records.
   2. Enterprise records.
   3. Complete cost records.
   4. Price relations.
   5. Basic unit factors of cost.

II. Farm organization—
  1. Types of farming—
    (*a*) Determination of enterprises.
    (*b*) Plan or combination of enterprises.
  2. Size of business.
  3. Farm plan or layout.
  4. Effective use of labor and equipment.
  5. Intensity of production.
  6. Business methods.

III. Farm Finance—
  1. Methods of financing.
  2. Insurance.
  3. Taxation.
  4. Other financial relations.

IV. Farm labor—
  1. Supply and movement.
  2. Trend of population.
  3. Living and housing problems.
  4. Creating new productive enterprises for farm labor.
  5. Standards of supervision and compensation for farm labor.

V. Agricultural history and geography—
  1. Trend of agricultural development.
  2. Shifts of agricultural production.
  3. Relation of American to foreign agriculture.
  4. Supervision of atlas.

VI. Land economics—
  1. Land resources.
  2. Land values.
  3. Land ownership and tenancy.
  4. Land settlement and colonization.
  5. Land policies.

VII. Farm life studies—
  1. Rural home life.
  2. Opportunities for social contacts in typical rural communities.
  3. Rural organization.
  4. The relation of educational and religious institutions to farm-life problems.
  5. The relation of health and the various forms of disability to rural welfare.
  6. Social effects of the various types of farm labor, tenancy and landlordism.

The first section of this outline deals with the application of *accounting methods* to the problem of the farmer. Just as the experiment station was named for the method of research most prominent in the minds of those desiring to promote agricultural research when

the Hatch act was passed in 1887, so this section has been named "Cost of production" to indicate the outstanding result which is popularly expected from the use of the accounting method.

The accounting method may be used extensively as in the surveys and the financial accounts, or more intensively as in the enterprise accounts and the detailed records of all the activities of the farm.

The accounting method throws much light on the farmer's problem of what to produce and how to produce it. Wherever the farmer has a choice between lines of production and between means to be used in production, accounting will provide some of the facts essential to a rational decision as to what to produce and the means to use in production in order to secure maximum profits under given conditions as to costs and prices.

Another aspect of this problem, and one which has received much attention in recent years is the relation of costs to price. In our complex economic life with its high degree of specialization and division of labor both as between individuals and between regions, the view that competitive forces adjust prices in a manner fair and just has not been accepted for all conditions. On the other hand, the view has gained ground that where a group of men have made permanent investments in the agencies essential to producing an article, let us say milk for example, and where custom tends to bind the price of that article to an old level when all the elements of cost are rising, it is in the interests of sound public policy to adjust these price levels in such a manner as will preserve this production. It is believed that there are conditions where a public loss will be sustained if competitive forces are left to work in their slow and crude way to readjust the price level by destroying a part of an essential industry in order to force prices up only to find that the whole industry was needed and that a period of great scarcity and unnecessarily high prices results from a shortage in supply.

Wherever the competitive régime breaks down the problem of fair price arises, and wherever the question turns on fair price attention is focused on the study of costs. Thus it is that the cost of production is in the foreground in this day of unsettled price conditions. In the minds of some, accounting has failed to play a satisfactory rôle in this regard. This difficulty arises out of the fact that but little farm accounting had been done and that had been directed to the problems of farm organization rather than the problems of price regulation. With adequate funds the accounting method will render invaluable service in the study of the cost of production in its relation

to the problem of fair price. The basic unit factors of production which will be ascertained for this purpose will serve not only for the emergencies when price regulation is necessary but also as an aid in constructive extension work in farm organization.

Farm Organization, the second section in the committee outline, is the assembly plant where the results of research in the other sections and to some extent in other bureaus are brought together into a united whole for educational purposes. Here the point of view is that of the farm manager with all the conditions of his farm and community with respect to the land, labor and capital on the one hand and market conditions on the other forming the basis of decisions as to what to produce, how to use labor and equipment, how to determine the size of the farm and the intensity of culture in order to win maximum profits. Thus a highly perfected art of farm management is the goal of farm economics viewed from the standpoint of the individual.

It is not believed that these questions can be settled once for all and in general. The work is that of developing methods of analyzing the problem on the specific farm. Where this section leaves off is where the extension work begins without which our work will be like a light hidden under a bushel. The task will be completed when each farmer has learned to figure for himself, so as to adjust his farming operations to ever changing conditions to secure maximum profits for himself and maximum economy in the nation's production.

Farm finance is an important field requiring the attention of specialists in credit, insurance and taxation who are thoroughly cognizant of the farmer's conditions and needs and who for this reason are able to study those problems from the standpoint of efficient farm organization, land tenure and agricultural progress.

Farm labor is a subject which has received too little scientific consideration in this country. The five headings given in the outline are suggestive of some of the topics to be considered. The proper study of this subject will throw much light upon the farm labor question. The study of the farm labor problems in foreign countries will help us better to appreciate our present labor conditions and to comprehend in some measure the trend of affairs. In some parts of this country the labor problem is closely associated with the tenant problem.

Agricultural history and geography may be looked upon as methods of studying various farm economic problems, but there is a subject matter which requires to be built up by specialists through a series of years in order that the materials may be available for application in

the solution of the great variety of problems which arise from time to time. The Atlas of American Agriculture is the important work in progress in this section at the present time.

Land economics deals with a well organized group of problems which in the long run have a most profound influence upon the character of agriculture and the welfare of the agricultural population. Land is the farmer's savings bank. Whether or not the succeeding generations of farmers will be able to maintain their economic independence depends upon whether or not the distribution of the national dividend is such as to enable the farmer to save and invest in this bank enough to maintain control. There are immediate problems, such as better leasing systems, better methods of land settlement, a better understanding of a sound basis of land values, and an improved national land policy which may be looked upon as the immediate results to be secured from work in this field, but the great significance of the work in land economics lies in the discovery of those subtle dynamic forces which may be slowly but certainly bringing about changes in the relation of the farmer to the land. A thorough understanding of those forces is essential to their control and their control is an essential part of a constructive policy for American agriculture.

In *farm life studies* we come to the end in view in all efforts to improve agriculture. When the whole matter is sifted out it will be found that the conditions of living on the farm and in the rural community and the resulting attitude of mind of farm men and women toward their work and the land they till is at the root of the difficulties encountered in efforts to improve methods of farming and to promote the conservation of the land. In our efforts to secure better agriculture in order that we may have better living, have we not overlooked the fact that better living is one of the most potent means of securing the better agriculture. Attention has been focused too exclusively upon the field and the feed lot, the crops and the barns for storing them. The time has come for focusing upon the farm family, the unit of country life, and letting all these other matters find their proper places in the background of the picture. When this is done I am convinced that a new spirit can be breathed into scientific agriculture and it will become a living thing whose company will be eagerly sought. Those so-called leaders who say give us the dollars and we can do the rest are honest enough no doubt but they are mistaken. Study the history of individual farmers who have taken this view and you will find testimony in abundance of the struggle for money accompanied by the doing without the comforts of life fol-

lowed by a move to town so soon as a competence has been secured. This is unfortunate from at least two fundamental points of view. First from the standpoint of the life itself for the long years of hard work and abstinence is all too often followed by disappointment in the seeking of satisfaction in retirement. Second, from the standpoint of the progress of agriculture this movement carries the best skill and judgment from the farm and shelves it where it renders no service.

What is needed is to make farming a business which can be carried on by people who are leading a satisfactory life while in the business so that each farmer may contemplate with pleasure a full life of activity on the farm under conditions such as will be attractive to his family. It has been demonstrated that this is a subject susceptible of scientific investigation. There are no lines of research more worthy of the state and federal research funds than the scientific study of farm life and the methods of making this life more attractive.

One of the committees on reorganization reported on methods of research as well as upon the subjects to be investigated. The methods of study were outlined as follows:

METHODS OF STUDY.

A. Survey method:

This method may be used in making such studies as—

1. Labor income.
2. Farm enterprises.
3. Farm practices.
4. Farm costs.

The value of this method depends upon—

1. Trained investigators.
2. Sufficient numbers of records.
3. Representative data.

B. Cost accounting method:

This method is valuable—

1. For providing basic unit factors of farm production, which are essential to the proper farm organization, such as—
   (*a*) Labor requirements.
   (*b*) Feed requirements.
   (*c*) Material requirements.
2. As a check on more extensive methods of farm analysis, and also to compare the results obtained by other methods.

C. Observation method:

This method should be of value when used as preliminary or supplementary to other investigational work. It should not serve as a basis for conclusions.

D. Geographic method:

This method is valuable as a means of contributing information concerning the physical and economic factors which influence farm organization—

1. Climate.
2. Soil.
3. Topography.
4. Transportation.
5. Marketing facilities.
6. Market prices.

E. Historical method:

This method is valuable—

1. As a means of understanding the development of the farming industry.
2. To assist in the interpretation of the trend of agricultural production.

F. Statistical method:

This method, although involved in the other methods mentioned, may be used as a direct means of studying farm organization.

This method may be used for such studies as—

1. Cycle of production.
2. Price relationship.
3. Types of farming.

G. Experimental method:

The experimental method may be used to advantage in the study of certain problems, such as—

1. The proper degree of intensive culture.
2. The right balance of enterprises.
3. The proper unit of organization.

While each method is especially fitted for the assembling of a particular kind of material and for this reason one method may contribute more to the solution of a given problem than another, all these methods are important and no final conclusions should be stated on any subject until every method has been used which can contribute to its solution.

Division of Labor and Coöperation.

The committee on reorganization recognized that the establishment of right relations with other workers in the field of agricultural research demanded the right application of the principles of division of labor and coöperation. This applies not only with respect to the division of subject matter in the Department of Agriculture, among those trained in the physical and biological sciences on the one hand and those trained in economic research on the other and the cooperation of these groups of specialists in bringing back to the farmers well-rounded and well-balanced answers to their question, but also

to the question of coöperation between the economic workers in the United States Department of Agriculture and the various colleges and experiment stations.

The recommendations of the committees on reorganization, as amplified by the committee on farm organization, which relate to the question of coöperation with the federal and state workers in this field are as follows:

COÖPERATIVE RELATIONS BETWEEN THE OFFICE OF FARM MANAGEMENT AND STATE COLLEGES AND EXPERIMENT STATIONS FOR INVESTIGATIONAL WORK.

It is recommended that the investigations of the Office of Farm Management requiring field work be carried on in coöperation with the State Colleges and Experiment Stations. Some of the benefits of such coöperation would be:

(1) To prevent duplication and to correlate activities.

(2) To promote the development of state departments.

(3) To unify the methods and improve the general character of all farm management work.

The following method of procedure in initiating relationships is suggested:

1. Projects for coöperative investigation may be proposed through either the proper administrative officers of the United States Department of Agriculture or of the State colleges or experiment stations.

2. Personal consultation between federal and state representatives is advised in initiating all important phases of investigational work.

3. The college or experiment station and the United States Department of Agriculture should agree mutually upon the designation of an individual to act as joint leader of farm management and farm economic investigations for the State and the Department of Agriculture.

4. A memorandum of agreement should be drawn up between the United States Department of Agriculture and the State college or experiment station, embodying the following points:

(*a*) Coöperative relations and methods of work:

Coöperative investigations in farm management and farm economics should be established in the various States upon the most equitable basis possible, in view of the conditions that exist within the states and the United States Department of Agriculture.

(*b*) Personnel:

It is recommended that when investigators and employees of the Bureau of Farm Management and Farm Economics are assigned to a state for work, they shall be considered as members of the Farm Management and Farm Economics staff in the state institution concerned, and thus represent the United States Department of Agriculture and the state. Men selected for work in the state shall be approved by the contracting parties, namely, the United States Department of Agriculture and the state college or experiment station. In the event that institutions do not have a Farm Management and Farm Economics staff, it is then recommended that any man assigned to work with the institution shall be considered a member of the investigational staff of the institution, his work to be administered in the usual manner in that institution.

(*c*) Approval of projects:

All projects undertaken by joint representatives or by investigators assigned to institutions shall be subject to approval by the interested authorities in the state concerned and by the Bureau of Farm Management and Farm Economics, United States Department of Agriculture. The projects within the states should be administered by the college or experiment station.

(*d*) Publication of data:

Data collected by coöperative effort should be equally available to both parties. Neither party should publish any of the data without consultation with the other party. In case of refusal to publish on the part of either party, the other party shall be free to publish the data on its own responsibility.

(*e*) Regional studies:

The larger regional or national projects undertaken by the United States Department of Agriculture shall be conducted in coöperation with the state colleges or experiment stations included within the region. In initiating the coöperation the various administrative officers of the states and the United States Department of Agriculture should be called together in so far as practicable to discuss the form of the project which shall be mutually undertaken. It is recognized that the preparation and publication of material covering a region involving two or more states is peculiarly a function of the United States Department of Agriculture, and that the investigation may best be carried out through coöperation with the several states concerned.

It is with these plans drawn up largely by men from the various states that the representatives of the Office of Farm Management come to you as directors of experiment stations asking for coöperation in the undertaking of economic investigations. Whether or not some of the representatives of the federal office might prefer to be independent of state relations, economy and efficiency point to the wisdom of our joining with you in the plan here outlined or upon some other plan which can be devised.

It is our desire that the director of each station designate the person or persons with whom we are to establish coöperative relations. The work in farm management and farm economics is organized differently in different institutions. It is not our purpose to have anything to say about your form of organization. Our one desire is to have a definite point of contact through which we can establish cooperative relations. In carrying out the work it is our desire to put the coöperation on a fifty-fifty basis so far as finances are concerned. The plans will, of course, be worked out jointly and it is our desire that the responsibility of carrying out the work from day to day and month to month shall be shouldered by the state project leader.

Never before were farmers more interested in economic questions. Leadership in thought as it relates to the economic forces with which the farmer has to deal is the duty of the experiment stations and the United States Department of Agriculture working coöperatively and harmoniously. With the thinking right the actions will not be far wrong, let the leadership in action be vested where it may. I should prefer to see the leadership in action vested in the farmers themselves, ever looking to the educational institutions for inspiration and facts which will direct their action to fruitful results.

My attention has been called to a movement to have the farmers raise funds and establish a farmers university devoted to research and education in the field of agricultural economics. I trust this call is more a manifestation of interest in the subject and of impatience due to the slowness with which progress has made than lack of confidence in the integrity of research work done by the experiment stations.

It takes time to train men for leadership in economic thought. This is the most difficult of the tasks undertaken by scientific workers in the field of agriculture. The danger is not so much in the slowness of the development as in failure to appreciate the importance of taking the precaution that solid, permanent work be done.

Economic questions are dealt with by everyone and in the absence of scientific results everyone feels his opinion is as good as the next one's. The danger is that men holding high positions in the field of agricultural education and research, but who are without training in economics, shall presume to lead thought in this difficult field. What is needed is a careful study and adequate presentation of facts on questions of this kind in order that truth rather than opinion may be presented in a form that it may become the basis of making improvements. Here is a large field of usefulness for the student of economic problems in the experiment stations and in the United States Department of Agriculture. Let us work together with the hope of directing thought into lines which will lead to rational action and to a solution of those economic questions which confront the American farmer, the right solution of which will go far to determine the course of American civilization.

AMERICAN FARM ECONOMIC ASSOCIATION.

Summary of Report of Committee on Extension Work—November, 1919.

The Committee sent out three queries:

The following question was sent to Directors of Extension, State Leaders of County Agents, Presidents of Farm Bureau Federations, Farm Management Specialists and Demonstrators:

How can the Farm Management Specialist or Demonstrator most effectively help the Farm Bureaus or County Agricultural Organizations in developing a profitable and self-sustaining agriculture?

A total of seventy-five replies representing sixty percent of the parties addressed were received.

Most of the replies were so composite that no attempt has been made to present a detailed tabular analysis of them. They suggest a wide field of activity through which the specialist or demonstrator can be of assistance to the Farm Bureaus or County Organizations.

The suggested activities are as follows:

1. The preparation and publication of bulletins, circulars and press material.
2. The preparation and presentation of farm management exhibit material at county fairs.
3. Work in the public schools.
4. Carrying information to the bureaus from the research department.
5. Aiding in the development of the bureau and community program of work.
6. Collecting data by records and surveys.
7. Establishing demonstration farms.
8. Establishing adequate accounting systems on farms.
9. Teaching county agents the fundamental principles and viewpoints on farm management.
10. Assisting other subject matter specialists in correlating their work with the bureaus and the farms by giving them the farm management viewpoint.

Every one of these activities is being carried out in some part of the field and in many sections several or all of them.

Thirty farm management specialists and demonstrators replied to the following question:

How can the college department of farm management and the United States Office of Farm Management be most helpful to the farm management specialist or demonstrator?

The leading thought in two thirds of the replies to this question are expressed in the following quotations:

I do not believe there is a farm management extension man in the country who is not more or less handicapped by the lack of adequate investigations pertaining to his particular region.

The college or the United States Office of Farm Management, therefore, should obtain information and make the results of such investigation available for use as rapidly as facts can be established, giving special attention to the adaptability of such material.

Some other methods of rendering help mentioned were:

Furnishing charts, lantern slides and illustrative material when needed.

By assisting the demonstrator in the summary and analysis of account books collected from farmers.

By correlating college work of students with extension activities reaching their home farms.

By advising regarding methods of work with farmers.

By furnishing survey or other assistance when needed.

By furnishing the necessary money and advice so that the work may be carried on in a somewhat larger way than is being done at present.

To the farm management extension specialists and demonstrators the following question was also sent:

In what way can the farm management specialist or demonstrator aid the administrators of the Smith-Hughes act in developing their program along sound farm management lines?

The ideas of a large number of the men are well expressed in the following quotation from one of the replies:

The new field of vocational agriculture would seem to offer the best opportunity so far presented to bring home the problem of farm management to the people. Most of the men engaged as teachers for this kind of work are well trained in vocational agriculture and thus have more or less of the farm management viewpoint. In talking with many of these men they have expressed their wish to have a farm management course in the vocational work, as it appears to them to be one of the essentials in binding together the other agricultural subjects that would be given. In other words, a course in farm management is the business end of the subject and all such teachers agree that such business knowledge is one of the requirements to successful farming, whether this knowledge is received in the school room or by "hard knocks" on the farm.

Such being the situation the vocational school offers the farm management specialists a wide field and they can best coöperate with such schools by assisting them in outlining their courses and assisting in rural survey work that they may wish to undertake, and generally assisting in the presentation of the subject of farm management to the students of the schools in a manner that will be both interesting and profitable.

C. L. GOODRICH,
Chairman Committee on Extension.

REPORT OF COMMITTEE ON EXPERIMENT STATION FUNDS AND WORK. NOVEMBER, 1919.

The widespread interest in economic problems as affecting the farm has resulted in a desire upon the part of the experiment stations to extend their investigations and include this important field.

Various persons with whom the matter of funds have been discussed have assured the committee of their interest and assistance. It is recognized that the experiment stations must have additional funds before they may undertake new investigations and that additional funds may be best secured through federal sources with the possibility of requiring states to offset the added funds—dollar for dollar.

Two proposals have been considered, viz.:

(*a*) The introduction of an appropriation act for moneys to be used by stations in farm management and economic studies.

(*b*) That the Hatch Act be amended to provide adequate funds so that it may include farm management, agricultural economics, home and rural education investigations.

The committee favors the latter method and recommends that: The Congress shall be called upon to increase the appropriation to states by amending the Hatch Act to include an adequate sum to be offset—dollar for dollar—by the states for the purpose of continuing and enlarging important studies now in progress and to extend the field of research to include the problems of farm management, marketing, agricultural economics, and home and rural education.

The committee further recommends that a committee on experiment funds and work shall be appointed to confer with committees of such other subjects as may be appointed for the introduction of an appropriation act at such time as seems feasible.

T. P. COOPER,
Chairman.

FARM ECONOMIC NOTES.

Mr. Murray R. Benedict, until recently county agricultural agent at Mankato, Minnesota, began work as farm management demonstrator in South Dakota, November 16, 1919. Mr. Benedict is a graduate of the University of Wisconsin. Subsequent to graduation he took some work at the University of Illinois.

Mr. Rex E. Willard, recently county agent in North Dakota, became farm management demonstrator in that state December 1, 1919, succeeding Mr. Edwin Mayland who resigned recently. Mr. Willard spent five and one half years in the office of farm management, U. S. Department of Agriculture, prior to going into the county agent work in 1918.

Mr. Frank C. Clapp has been secured as an assistant farm management demonstrator in Minnesota. Mr. Clapp received both his Bachelor and Master of Science degrees at the College of Agriculture, University of Minnesota, specializing in farm management.

Mr. Willard D. Hill, who resigned as assistant in farm management demonstration work in 1917 to enter military service, and who later received his lieutenant's commission in aviation and spent about eighteen months in the hospital after being shot down in France, has recovered and has again accepted a position with the Section of Farm Management Demonstrations of the States Relations Service.

Mr. C. C. Taylor, Office of Farm Management, United States Department of Agriculture, has been appointed as Farm Management Demonstrator in Idaho. Mr. Taylor came to Washington in April, 1918, in the capacity of Scientific Assistant and for nearly two years he has been connected with the farm survey work of the office. In his new position, Mr. Taylor will be located with the Agricultural Extension Department at Boise, Idaho.

Cap E. Miller, Professor of Farm Management at the North Dakota Agricultural College writes as follows: "The Journal of Farm Economics is a big help to me in my Farm Management and Agricutural Economics teaching. Dr. G. F. Warren of Cornell University was with us on Friday, January the 16th. He stopped off here on his way home from Canada where he had been lecturing.

He gave our students and faculty members one lecture in the afternoon on "General Farm Management Principles." In the evening he gave a lecture on "Present and Future Prices of Farm Products."

Mr. J. B. Andrews, Farm Management Demonstrator in Illinois, has resigned to take a position as Farm Manager at Ann Arbor, Michigan. Mr. E. Rauchenstein will have charge of the Farm Management Demonstration work in Illinois during the remainder of the present year.

Mr. S. H. Thompson, who has been Farm Management Demonstrator in Iowa for several years, has accepted a position with the Department of Agronomy and Farm Management at the University of Minnesota. In addition to the teaching and investigational work, which Mr. Thompson will carry, some time will be devoted to graduate study in Farm Management and Agricultural Economics.

Professor John H. Black has been appointed as Chief of the Department of Agricultural Economics at the College of Agriculture, University of Minnesota.

Mr. Nils A. Oleson was appointed Assistant Agricultural Economist in the Office of Farm Management, U. S. D. A., and entered upon his new duties on November 3, 1919. He will assist with research work in agricultural history.

REPORT OF COMMITTEE ON MEMBERSHIP AND JOURNAL POLICY.

TENTH ANNUAL MEETING, AMERICAN FARM ECONOMIC ASSOCIATION.

It was recommended and approved:

1. That associate membership be abolished, and that the active membership fee be continued at $2.00 per annum.

2. That if the annual dues of any member are not paid by the end of the year the name in question shall be taken from the membership list. When a member is one year in arrears, he shall be notified that his name will be removed from the list at a specified time.

3. That the JOURNAL OF FARM ECONOMICS be continued as a quarterly publication, it being the general policy to have each number contain articles relating to investigation, teaching, extension, and other farm economic interests.

J. I. FALCONER, *Chairman.*